DOCUMENT RESUME

ED 143 441 PS 009 466

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TITLE A Description of Title IV-A Infant and Toddler Day Care, 1974-1975: Adult-Child Interactions and Care Room Activities. Report No. 7641.
INSTITUTION Philadelphia School District, Pa. Office of Research and Evaluation.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE Sep 75
NOTE 42p.; For related documents, see PS 009 464-465, PS 009 467

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Child Care; Child Development; *Classroom Observation Techniques; *Day Care Programs; Early Childhood Education; Infants; *Interaction Process Analysis; *Measurement Instruments; Observation; Social Relations; *Student Teacher Relationship
IDENTIFIERS Infant Toddler Interaction and Activity Profile; Pennsylvania (Philadelphia)

ABSTRACT

This report is concerned with the development and use of the Infant/Toddler Interaction and Activity Profile in 13 day care centers in Philadelphia. The Profile and its development are described and methods of data collection and analysis are explained briefly. Findings are reported in four major areas: (1) basic data characteristics, offering a general picture of infant/toddler care; (2) specific characteristics of adult responsiveness to children; (3) types and frequencies of observed interactions and their relationships to principles of child development; and (4) a system, based on preliminary data, for making discriminations between care rooms and demonstrating areas of strength and weakness. A summary of the findings about the instrument itself and the information collected is presented. Implications for further evaluation are offered. Appendices give definitions of the terminology used in the Profile and provide a sample observation record. (Author/JMB)

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A DESCRIPTION OF TITLE IV-A INFANT AND TODDLER DAY CARE, 1974-1975: ADULT-CHILD INTERACTIONS AND CARE ROOM ACTIVITIES

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PS009466

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ABSTRACT

This report is concerned with the development and use of the Infant/Toddler Interaction and Activity Profile in day care centers in Philadelphia in 1974-1975. Data collection took place over a period of several months in thirteen infant/toddler care rooms. The Profile was found to be a viable instrument for accurately describing, and on initial evidence, for differentiating among daily care programs for children under 36 months of age.

The instrument made it possible to observe specifically defined ongoing interactions that took place between adults and children as well as the general activities in which caregivers were involved.

Particularly important findings include generally high rates of occurrence of adult and child speech and low occurrence rates (under 15%) for: an adult feeding back interpretations of children's overtures, praise, offering of choices, reproof or physical restraint. Caregivers adjusted their posture to children's stature slightly more often (43%) than they maintained the adult-child differential, (41%).

For adult's general activity, "Passive involvement" accounted for the most time spent (32%) with "Play" accounting for 30%. There was no adult-child involvement for 14% of the time, and "Didactic behavior" occupied 11% of observed time. Children's speech was responded to in about one half (49%) of such cases, and children's "overtures" were acknowledged at a

rate of 67%. Interpretations of "overtures" were fed back for 37% of the overtures made. If a child showed genuine distress, an adult responded in 83% of such instances observed.

Interaction Elements facilitating language development were used by caregivers in one half as many instances as these Elements could have been used as shown by the derived Index of Development Facilitation. Indices for fostering positive self-concept, and independence and curiosity were 25% and 23% respectively.

Thirteen behaviors and behavior-groups, eight Interaction Elements, two Predominant Activities, and three Developmental Categories are shown to be successful in differentiating program types.

Findings indicate that a high quality of care (as characterized by a high percentage of time spent in active relationships with children, frequent occurrences of desirable interactions and emphasis on interactions which facilitate the development of language, positive self-concept, and curiosity and independence) was possible but not universally achieved.

A DESCRIPTION OF TITLE IV-A INFANT AND TODDLER DAY CARE, 1974-1975: ADULT-CHILD INTERACTIONS AND CARE ROOM ACTIVITIES

INTRODUCTION

The Day Care Services Evaluation Unit undertook the development of observation instruments which would permit the description and evaluation of the care process in all day care programs. Part of this activity was focused on the Infant/Toddler Interaction and Activity Profile, developed for the description and evaluation of the care being provided approximately 250 children under three years of age in Title IV-A day care centers and family day care homes. The importance of this special effort is emphasized by the knowledge that most of the qualities that distinguish outstanding social and cognitive behaviors in a six year old are present by the age of three (White, 1973), and largely develop between the second and third years of life (Halpern, 1969). Speech, furthermore, and the ability to crawl and walk are critical areas in building foundations for later social and academic achievement (White, 1971), and these skills undergo their most rapid development in the infant/toddler age period.

Very specifically, it became necessary to develop a special instrument for children under 36 months of age for the following reasons:

1. The dominant interest of infants is in people, (Mussen, Conger and Kagan, 1969) making it impossible to describe fully a program of care without a careful look at the caregivers and their actions.

2. Infants, and to a lesser extent toddlers, are dependent on adults for care well beyond intellectual stimulation (e.g., feeding, diapering, protecting, "mothering").
3. Infants' relationships with adults form the basis for healthy social development, (Ainsworth, 1973).
4. The formation of self-concept also has its roots in adult-child relationships, and a positive self-concept is related to success in schooling (Purkey, 1970).
5. In an infant/toddler care setting, activities change quickly in response to children's needs, and it is therefore necessary to have a descriptive instrument which may be used in a rapidly changing situation.

This report details the development and use of the Infant/Toddler Activity and Interaction Profile which describes the minute to minute relationships between children and their caregivers and which allows one to review these relationships in terms of important issues in child growth and development.

The report is organized as follows: The history of the development of the Infant/Toddler Profile is related, and the instrument and its method of use are described, including methods of data collection and analysis.

Findings are reported in four major areas:

a. basic data characteristics, offering a general picture of infant/toddler care,

b. specific characteristics of adult responsiveness to children,

c. types and frequencies of observed interactions and their relationships to principles of child development,

d. a system, based on preliminary data, for making discriminations between care rooms and demonstrating areas of strength and weakness.

A summary of the findings about the instrument itself and the information collected provides conclusions and implications as well as offering suggestions for further evaluation.

Three appendices give definitions of the terminology used in the Profile and provide a sample observation record.

Instrument Development

The main goal was the development of an observation instrument which would accurately picture the ongoing and often fleeting interpersonal interactions between adults and children. It was necessary for the system to be relatively streamlined and straightforward in its use, and to be useful in providing relevant and uncomplicated feedback both to individual caregivers and center administrators.

In addition, it was important for those factors under observation to be clearly related to basic established principles of excellent child rearing practices.

A final criterion was that the system be easily adaptable to an optical-scanning format for future use with computerized information processing equipment.

There were three phases in the development of the instrument. Phase 1 involved reviewing available observation and recording techniques and analyzing them in terms of their suitability to the current special needs. Most of the information-recording systems reviewed omitted factors deemed important for this project, were vague in their definitions of elements to be observed or were too cumbersome or time consuming for practical use at a day care site. Literature was also reviewed in order to select critical areas of child development which would be influenced by observable adult-child interactions.

Phase 2 involved the actual construction of a combination checklist and narrative recording form. During this phase it was decided what types of interactions would be observed, and these were objectively defined. This initial observation instrument was used at five infant/toddler day care centers, and the recording system and definitions were refined in collaboration with center administrators and care room personnel.

In Phase 3, the revised observation system that resulted from this process was further field tested at three Infant/Toddler centers. Two observers made simultaneous observations to establish that the observation items, as defined, could be used with consistent objectivity. Minor revisions were made, and field-testing continued until the inter-observer agreement was minimally 85%. A final draft was then prepared and approved by the Evaluation Advisory Committee.

Description of the Instrument

In its final form, the Interaction and Activity instrument is used to record on an ongoing basis the following information:

1. 28 specific elements of adult-child interaction.
2. 10 possibilities of general adult-child activity.
3. A brief description of the context in which the interaction and activities took place.

To reflect most accurately the overall "tone" of the care room and make the most efficient use of the observer's time, each adult caregiver is observed for a series of two-minute periods. Caregivers are observed in an arbitrarily assigned rotation so that every two minutes a different caregiver is the focus of observation. This process continues for the entire observation period, lasting a total of 20 minutes.

During each two-minute segment, a record is made by "checking" the initial occurrence of any or all of the Interaction Elements, and at the conclusion of the period, a single "Predominant Activity" is "checked" and a brief description of the context in which the interactions took place is written (e.g., playing with blocks, handling books, looking out of the window). The context is recorded because it is useful in discussing the observations with caregivers.

The reader may refer to Appendix A for a complete list of "Interaction Elements" with operational definitions and appropriate examples. A similar list of "Predominant Activities" is in Appendix B.

Data Collection and Analysis

Before any formal data collection was begun, time was spent in each room talking with the caregivers and playing with the children. This afforded the opportunity to become slightly less a stranger and be familiar with the room layout, schedule, and available activities. The process of recording information was accomplished using the recording sheets on a clipboard,

allowing the observer freedom to move around and keep the caregiver in view for the full period. This was an important issue for two reasons: (a) most of the care groups used more than one room as well as semi-enclosed play structures; (It was necessary to be mobile, if not acrobatic, to keep the caregiver in sight); (b) almost all of the items required the observation of verbal and non-verbal behaviors which are often quite subtle, and to be accurate, the observer had to be close to the scene of the interaction. (A sample recording form appears in Appendix C.)

At the conclusion of each care room observation session, a conference was held with the person in charge of the center and, if possible, the staff in the room observed. During these informal conferences, a general summary of the recorded information was presented, and questions about the procedure and format were answered. A general discussion of the utility of the information was also held.

The information collected to date represents observations at various times during the day, including arrival in the morning and "pickup" in the afternoon. Also represented are activities in outdoor play areas, at mealtimes, and during walks inside and outside the centers.

For the purpose of data collection, each of 13 Infant/Toddler care rooms was observed on two separate occasions, and interactions and activities were recorded for a period of twenty minutes each time. Since the basic unit of observation was two minutes, ten such two-minute units were recorded on each visit. This yielded a total of 20 observation units for each room, and 260 for the total group. These 260 recorded observations reflect 520 minutes of care room activity.

It is important to note that during every two-minute observation unit, the first occurrence of each Interaction Element was recorded. It was therefore not unusual to record several different interactions during each two-minute period.

The data were analyzed to show percentages of occurrences for each Interaction Element and percentages of time spent in each Predominant Activity. Elements and Activities were ranked on the basis of these percentages. Further, adults' direct responses were expressed as the percentages of adult actions with respect to the opportunities for actions. Another analysis was based on Elements combined into Developmental Categories. Frequencies of observed occurrences within these categories were expressed as percentages. Finally, by using specified criteria for the range of percentages, Elements and Activities were analyzed in terms of different caregiving situations to determine their discriminatory quality.

FINDINGS

A. Basic Data

1. Interaction Elements

Table 1 (see following page) shows in rank order the percentage for each of the 22 Interaction Elements from the 260 observations made across all rooms. Adult speech was the most frequently occurring element, being recorded in 67% of all observations. Children's speech was noted in 62% of the observations. Adults spoke spontaneously -- not as a direct response to a child -- in 52% of the observations. Caregivers dealt with children from a standing position (41%) about as often as they adjusted their posture to child-size by kneeling or sitting on the floor (43%), and were simply not in the room for the remainder of the observations.

For 40% of the observations, a child made an effort to get an adult's attention; such overtures were acknowledged in 27% of the situations observed, but adults fed back their interpretations of a child's concerns in only 51% of the observations. Children were "encouraged" in 36% of the observations, "directed," or told what to do in 31%, and "discouraged" from pursuing an activity in 17%. In less than 20% of all observations were there instances of "affectionate contact", "praise", or the "offering of choices". Also occuring less than 20% were instances of "physical restraint", (41%), "verbal reproof", (5%), or "harsh treatment", (22%).

TABLE 1

INTERACTION ELEMENTS RANKED BY PERCENTAGE OF OCCURRENCE

(N= 260 OBSERVATIONS)

Rank	Interaction Element	Percentage of Occurrence*
1	Natural speech	67%
2	Child vocalizes	62%
3	Spontaneously speaks (adult)	52%
4	Posture adjusted to child's size	43%
5	Size differential maintained	41%
6	Child makes overture	40%
7	Encourages child to initiate	36%
8	Directs behavior	31%
9	Response to childs vocalization	30%
10	Acknowledges child's overture	27%
11.5	Shows interest in child's activity	24%
11.5	Courteous treatment	24%
13.5	Discourages child from initiating	17%
13.5	Affectionate physical contact	17%
15.5	Eye contact maintained	15%
15.5	Gives interpretations of child's overture	15%
17.5	Limits child (physical)	14%
17.5	Choice given child	14%
19	Praises child	12%
20	Carries child	11%
21.5	Reproves child	5%
21.5	Child makes urgent appeal	5%
23	Urgent appeal elicits aid	4%
24	Harsh physical contact	2%
24	Child makes suggestion	1%
25	Suggestion acknowledged	1%
25	Discourteous treatment	1%
26	Unnatural speech	0%

*Interaction Elements were observed independently during each of the 260 two minute observations allowing for the occurrence of more than one in each period observed.

In making interpretations about the rankings of these Interaction Elements, it must be remembered that a percentage given is an indication of that portion of the 260 total observations during which the Element occurred. Several Elements occurred during each observation, so it is not appropriate to make judgments based on a summation of the percentages of selected Elements. However, the values do reflect the frequencies with which the Elements occurred, and the rank order shows the relative relationship of those frequencies. Using this information leads to relatively straightforward conclusions. For example, although adults spoke in 67% of the observations (since there were no occurrences of "unnatural speech", "natural speech" serves as a measure of adult speech in general), adults showing interest in a child's activity were noted in less than one fourth (24%) of all observations. It can therefore be concluded from this information that adult speech was a common occurrence, but that it was much less common for that speech to indicate an interest in a child's activity. Similarly, the relationship between "directs behavior", (31%) and "choice given child", (17%) is also clear. These averages indicate that children were told what to do more often than they were given the opportunity to chose their own activities.

One may conclude from the data that almost no suggestions were made by the children in these centers during the time of observation. This is possibly the result of their very young age or that their ideas were not solicited or rewarded.

This question cannot be fully answered from the data, although the high frequency of children's vocalizations would seem to indicate that they had considerable opportunity to speak. Further, "carries child" was an observation included to keep track of one way in which caregivers were able to "get things done" and simultaneously meet the needs of anxious or dependent children. It may also have served as a way to share adult activity with a child.

Interaction Elements not commented on here will be discussed in terms of their relationships to adult responsiveness and developmental characteristics.

2. Predominant Activities

The general ways in which time was spent in the observed infant/toddler care rooms are ranked in Table 2 according to the percentage of time spent in each Predominant Activity. (Note that these percentages do sum to 100%, since only one activity was recorded as predominant per observation.)

TABLE 2

PREDOMINANT ACTIVITIES RANKED BY PERCENTAGE OF SAMPLED TIME

(N = 520 Minutes)

Rank	Activity	Percentage of Time Spent
1	Passive involvement	32%
2	Play	30%
3	Noninvolvement	14%
4	Didactic behavior	11%
5	Dressing	4%
6.5	Diapering	3%
6.5	Feeding	3%
8	Bathing	2%
9	Positive regard	1%
10	Sleep (preparation)	0
	TOTAL	100%

The most frequently occurring activity (32%) was that of an adult watching over children or guiding them with very minimal interaction. Play situations where the caregiver and child were actively doing things together ranked second at 30%.

For 14% of the observations there was a total lack of adult involvement, and for 11% of the observations, adults engaged in "didactic behavior" or direct teaching.

Negligible amounts of time were devoted to each of the six lowest ranked activities.

The data show that caregivers were directly involved with children 53% of the time, the remaining 47% is accounted for by "Passive involvement" and "Noninvolvement". Combining the activities ranking first and second shows that the caregivers spent 62% of their time interacting positively or neutrally with children, ("Play", "Passive involvement",). Combining the third and fourth ranked activities shows that caregivers spent 25% of their time either out of contact with the children or engaged in activities which would be inappropriate for very young children, ("Noninvolvement", "Didactic behavior"). Maintenance activities ("Dressing", "Diapering", "Feeding", "Bathing", "Preparing for sleep") occupied 12% of the observed time.

B. Adult Responsiveness

At any given time it was ordinary for a child to be speaking, bidding for attention, or crying for aid. Table 3 lists four caregiver "response" Interaction Elements as a percentage of each child-activity Element which could summon such a response. For example, the number of recorded "urgent appeal elicits aid" situations was divided by the number of "child makes urgent appeal" to determine the relationship between these two Elements expressed as a percentage.

TABLE 3

PERCENTAGE OF ADULT'S DIRECT RESPONSE TO CHILDREN'S VOCALIZATIONS, OVERTURES OR APPEALS

Interaction Element	Percentage of Possible Occurrences
Response to child's vocalization	49%
Acknowledges child's overtures	67%
Gives interpretations of child's overture	37%
Urgent appeal elicits aid	83%

For 49% of the child's observed speech or prespeech sounds, there was a corresponding adult response. For the total recorded cases of a child giving indications of real distress, the response rate was 83%. A child's bid for attention received minimal acknowledgement in 67% of the observations, but adults fed back interpretations of the overtures in only 37% of the cases.

Conversely, these data also indicate that 17% of children's urgent pleas were ignored, as were 33% of their bids for attention, and about 1/2 of their speech (or prespeech).

C. Relationships to Child Development

It was important to consider the various Interaction

Elements in relation to selected aspects of child development. By combining the Interaction Elements into three categories, three new percentages were established which serve as base line data to which individual center percentages may be compared. Values above the base line percentages will represent "better" attainment as regards an aspect of child development, while values below the base line percentages will represent "poorer" attainment.

To develop the base line percentages, the Interaction Elements were first categorized in the following three major areas (each area has listed below it the Elements it contains and the corresponding numbers in the list of Definitions and Examples):

I. Facilitating Language Development

spontaneously speaks to child (Element Number 1)
natural speech used (Element Number 2)
response to child's vocalization (Element Number 4)

II. Facilitating the Formation of a Positive Self-Concept

affectionate physical contact (Element Number 5)
posture adjusted to child's size (Element Number 7)
eye contact maintained (Element Number 8)
praises child (Element Number 10)
courteous treatment (Element Number 11)
acknowledgement of child's overture (Element Number 17)

III. Fostering Independence and Curiosity

encourages child to initiate (Element Number 12)
choice given child (Element Number 14)

Second, the total of the frequencies for the Elements within a category was divided by the number of Elements

times 260, and expressed as a percentage. This provided an overall index for each category of "child development."

The three Developmental Categories discusssed here are basic to the care of young children. They are closely related to a growing child's academic and social success, and accordingly have implications for quality day care. These relationships and implications are further discussed in the conclusions section of this report.

Table 4 (see following page) shows the possibilities of occurrence for the total number of Elements within each category, the total frequencies with which those Elements actually did occur, and the corresponding Index of Development Facilitation as percentages. As noted above, the number of possible occurrences was derived by multiplying the number of Elements in each developmental category by 260, (the total number of observations). For example, in category I, there were three Interaction Elements, each of which could have occurred in each of the 260 observations. Therefore, the total possible occurrences for category I equal 780, (3 x 260 = 780), for category II, 1560, (6 x 260 = 1560) and for category III, 520, (2 x 260 = 520).

TABLE 4

INTERACTIONS OCCURRING WITHIN DEVELOPMENTAL CATEGORIES EXPRESSED AS PERCENTAGES OF THE TOTAL POSSIBLE OCCURRENCES

Developmental Category	Total Possible Occurrences	Observed Occurrences	Index Of Development Facilitation (Percentage)
I. Facilitates Language Development	780	388	50%
II. Facilitates the Formation of a Positive Self-Concept	1560	359	23%
III. Fosters Independence and Curisoity	520	131	25%

The Index of Development Facilitation shows that Interaction Elements facilitating language development were used by caregivers in one half as many instances as they could have been used since the index is 50%. An adult was observed using an Interaction Element which would have served to foster independence and curiosity for one-fourth of the possibilities, since the Index is 25%. Interaction Elements through which a caregiver acted in a way which would specifically aid a child in the formation of a positive self-concept also were observed for about one-fourth of the 1,560 possibilities, since the Index is 23%.

D. Potential Differentiating Capability of the Profile

The data presented up to this point have provided information derived from the total number of observations made to date, and represent all of the care-rooms observed. In order to describe precisely and compare individual care-rooms, it is necessary to look at the observed interactions and activities for separate rooms. Because of the relatively small amount of individual room data, the findings must be considered tentative but indicative of how the Infant/Toddler Interaction and Activity Profile could be used to differentiate program types.

In order to discover which of the observations and Developmental Categories would be most useful in discriminating among programs, the percentage range for each observed behavior and Developmental Category was examined. Those behaviors with a range less than 50 percentage points were eliminated immediately, and the remaining 15 behaviors and categories were used to demonstrate how three selected individual rooms might be compared to each other, in terms of patterns of interactions and activity, as well as developmental categories.

To demonstrate the method for such comparison and to validate the Infant/Toddler Profile, an analysis, as already noted, was done on three rooms. These rooms were chosen by the evaluator, because they appeared on an intuitive basis to represent three distinct types of care programs.

The rooms were in three different day care centers, and all serve combined groups of infants and toddlers.

Room A appeared to be well organized, well equipped and staffed by personnel who appeared to be aware of basic principles of child development. There were constant, calm interactions between adults and children, and the caregivers appeared to enjoy what they were doing.

Room C was a relatively bare, dimly lit room with an inactive staff who seldom interacted with children. When they did so it was usually with annoyance.

Room B combined features of rooms A and C in that some of the caregivers had characteristics of the room A staff, and some were more like those in room C.

Table 5 (see following page) compares the three chosen rooms using the 15 behaviorial items and Developmental Categories with ranges greater than 50 percentage points. In order to have been considered to be either a "Behavioral Item or a Developmental Category which differentiates rooms," these three criteria were applied:

1. For Behaviorial items, the overall range must be at least 50 percentage points.
2. The difference between rooms A and B or between B and C must be at least 20 percentage points.
3. Their percentage values must fit a pattern with A and C at opposite extremes and B between them.

Whether or not these criteria are met is indicated by a "yes" or "no" in the far right column on Table 5.

TABLE 5

SELECTED ROOMS COMPARED USING THE BEHAVIORS JUDGED TO HAVE THE POTENTIAL TO MOST CLEARLY SHOW PROGRAM DIFFERENCES (PERCENTAGES ARE OBSERVED OCCURRENCES)

Behaviors	Room A	Room B	Room C	Behavior(s) Differentiate(s) Rooms
spontaneously speaks to child	75%	70%	30%	Yes
natural speech used	90%	70%	35%	Yes
child vocalizes	60%	60%	65%	No
affectionate physical contact	10%	0%	0%	No
posture adjusted to child's size	85%	30%	0%	Yes
size differential maintained	15%	50%	100%	Yes
encourages child to initiate	90%	45%	5%	Yes
directs behavior	20%	5%	10%	No
shows interest in child's activity	50%	25%	0%	Yes
child makes overture	60%	35%	35%	Yes
acknowledgement of child's overture	60%	30%	5%	Yes
urgent appeal elicits aid	5%	0%	0%	No
noninvolvement	0%	20%	55%	Yes
passive involvement	35%	30%	15%	No
play	65%	25%	20%	Yes
facilitates language development	70%	63%	30%	Yes
facilitates formation of a positive self concept	41%	17%	3%	Yes
foster independence and curiosity	45%	33%	3%	Yes

Percentages indicate the relationship between observed occurrences or activities and the total number of occurrences which were possible during the observation period. It should be noted that the observational system recorded any and all Interaction Elements occurring within each two minute period, and one Predominate Activity for each period.

Thirteen of the 18 behaviors and behavior-groups met the stated criteria and showed clear differences between the chosen rooms, and in three cases ("posture adjusted to child's size", "size differential maintained", "encourages child to initiate") the difference between room A and room C was 85 percentage points. In all cases where differences occurred, they follow exactly the patterns that would be expected from the subjective judgements of the three rooms.

"Child vocalizes" does not discriminate between these programs, perhaps due to its pervasiveness, nor does "affectionate physical contact", possibly due to its general absence. Though "spontaneously speaks to child" does not show a great difference between rooms A and B, the difference between rooms A and C is clear. Similarly "child makes overture" does not differentiate between rooms B and C but does differentiate these two from room A. This apparent lack of discrimination in this instance is not surprising, since room B was characterized as having features of both other rooms.

"Passive involvement" does not discriminate, according to the data nor does "urgent appeal elicits aid". The latter case is due to a corresponding lack of urgent appeals by children, eliminating opportunities for noting this item.

SUMMARY AND CONCLUSIONS

In this section, conclusions about the construction and use of the Profile are discussed, as well as conclusions relative to the delivery of care services for infants and toddlers. Implications of these findings and the need to collect more comprehensive data are also discussed.

The Infant/Toddler Interaction and Activity Profile, developed and used by Day Care Evaluation staff in 13 centers in Philadelphia in 1974-1975, gives evidence of being a useful observation tool for specifically describing day care programs for children under 36 months of age. It uses as a data base the types of ongoing interactions that occur between adults and children as well as the general activities in which they are involved. Using categories derived from combinations of the basic observations, programs can be described in terms of their pervasive caregiver interactions, the responsiveness characteristics of caregivers, and the emphasis they place on developmentally appropriate activities.

On the basis of preliminary data, thirteen observed activities, behaviors and behavior-groups are tentatively shown to be capable of discriminating between different qualities of care. Accumulation of additional data will establish more comprehensive base line information, and accordingly will permit the further identification of strengths weaknesses in each infant/toddler care room.

The two factors concerning adult interaction that most clearly vary according to program are the physical postures caregivers adopt in relation to the children, and the frequency with which children are encouraged to start and/or continue activities.

Two important points should be made here before discussing general conclusions about infant/toddler day care. (1) There is no existing standard of excellence or even acceptability for the descriptive measures being discussed. It is known that the factors under consideration are important for quality child care but it is not known with certainty "how much" is adequate or even possible in a group situation. (2) Preliminary data compiled for individual care rooms show a wide range of variability and the data being discussed are averages of the observations across all rooms observed.

On the basis of the 13 care rooms observed, it is clear that caregivers interacted with children in ways that would encourage language development at a 50% rate on the Index of Development Facilitation presented in this study. The highest room index for this Language Development Category was 70%, while the lowest was 30%. Clearly, caregivers seem to show room for improvement on this index generally, and in those rooms where the Index was less than 50%, there appeared to be definite need for improvement.

Further, interactions fostering both Self-Concept Development and Independence and Curiosity achieved a rating

essentially of only 25% each. Improvement in these important areas seems definitely called for, since highs in both were noted at only 41% and 45% respectively (the lowest indices in both were 3%). "Fostering self concept" is often reported as a goal of day care programs, and thus the importance of this category is attested to by program specialists themselves. Independence and Curiosity are recognized for their importance by most developmental specialists as well. Young children's learning comes about as a result of exploration and imitation, and curiosity may be explained as the motivating force. Independence allows a child to explore and test himself and his environment and therefore affords an outlet for his curiosity. In other words, independence and curiosity are basic to learning.

A relatively small amount of adult behavior which would encourage curiosity and independence implies a situation where the children are restrained or ignored. The fact that interactions involving physical restraint or "harsh physical contact" occurred infrequently suggests that the children have freedom to move about, but the information, at the same time, indicates that adults spent 14% of their time out of contact with children, and "Noninvolvement" ranks third on the list of Predominant Activities. These data would suggest that, in a number of the rooms observed, children are left entirely alone for more time than would be desirable.

Another area of concern centers around the fact that

"Didactic behavior" as defined in this instrument occupied 11% of the caregivers' time. This type of teaching is probably inappropriate for very young children, according to most child development specialists. That is, a child may become thoroughly frustrated because the teacher apparently places a high premium on learning concepts or skills for which the child does not yet have a sound foundation. The child may be unable to make the proper response, thereby frustrating himself and his teacher, and setting in motion a vicious circle of failure. Though 11% of the observed time may not appear to be much, that amount takes on added significance when it is noted that it is one-fifth of the total time caregivers were directly involved with children.

Didactic teaching definitely is <u>not</u> the type of "teaching" that occurs when an adult aids a child's development by employing specific words or actions prompted by the adult's knowledge of the child's developmental level. This type of subtle "teaching" cannot be directly recorded, because to do so accurately the observer would have to be aware of the caregiver's intent. It is probable that teaching of this sort can be inferred by high frequencies of occurrence for the following observed Elements:

1. spontaneously speaks to child
2. encourages child to initiate
3. choice given child
4. shows interest in child's activity
5. response to child's vocalization

It is likely that a care room with high frequencies in these Elements would also rank high in the Developmental Categories and low in "Noninvolvement."

The tentative individual data indicates that some of the individual rooms score far above the averages reported (Room A is an example) and some rooms score far below. A preliminary conclusion based on this information is that while a high level of quality is possible, as indicated by the care patterns in some rooms, this is not generally achieved.

Further work needs to be done to establish a more extensive base line of information which would give greater perspective to the observations of individual care rooms and accordingly isolate areas of strength and weakness. This could serve as the basis for ongoing training and self-evaluation, and would ultimately enhance the quality of day care and the life of the young children involved.

All information gathered for this report was imparted to the training staff of Day Care Services and has been incorporated as background data for future training plans.

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APPENDIX A

INTERACTION ELEMENTS:

OPERATIONAL DEFINITIONS AND EXAMPLES

INTERACTION ELEMENTS:
Definitions and Examples

1. Spontaneously speaks to child

   Definition: The adult spontaneously speaks or sings to the child. There is no action on the child's part which would specifically elicit a response from the adult. This may occur whether or not the adult and child are involved in an activity, but does not apply if the adult is responding to an obvious cue.

   Example: (a) Child is sitting on the floor playing with a ball - Adult: "Hi Susan, while you play with your ball I'm going to change William."

   (b) Infant is in crib playing with his feet - Adult: "Say Sandra that looks like fun." (Playing with feet would not be considered an activity which would specifically elicit a response.)

   (c) Adult simply passes a child and says "Hello".

2. Natural speech used with child

   Definition: The adult uses reasonably adult speech when addressing a child, as opposed to baby talk or super-enunciation. This does not exclude mimicking an infant's prespeech sounds to encourage repetition but would prelude a style such as "Does Billy Willie want his bottle wottle?"

2a. Unnatural speech used with child

   Definition: Speech used which is either, baby talk, or superenunciation.

3. Child vocalizes

   Definition: Any vocal sound made by a child.

4. Responds to child's vocalization

   Definition: This element is specifically designed to record an important aspect of language learning. It is appropriate in any case where the child speaks or makes a prespeech sound and the adult responds in a way which would indicate to the child that he/she had been heard.

   Examples: (a) Child says "book" and the adult responds "Book, Here's a book."

(b) Infant says "bah" and adult says "Well bah right back to you and a bah bah for good measure."

5. Affectionate physical contact with child

Defintion: This includes the full range of touching from a hand resting on a shoulder to the most vigorous roughhousing. Excluded from this element would be touching by accident and contact of a non-affectionate nature.

Example: (a) Tickling a child during diapering would be included but Touching, essential to the diaper change procedure, with no affectionate component would not be included.

5a. Harsh physical contact used with child

Definition: Physical contact which is obviously unpleasant and forceful.

Examples: (a) hitting, (b) pinching, (c) shaking, (d) pushing, (e) dragging.

6. Carries child

Definition: The adult carries the child while he/she moves around the room taking care of other children or performing maintenance tasks. Unless the child receives the adult's direct attention, this would not be coded "posture adjusted to child's size" or "affectionate physical contact."

Example: An adult carries a child against her hip while she helps another child dress, answers the phone, etc.

7. Posture adjusted to child's size

Definition: The adult either squats, stoops, sits or makes whatever physical adjustment necessary to relate to the child on relatively equal terms.

Examples: (a) The adult sits on the floor with the child.

(b) The adult lifts the child to eye level.

7a. Size differential maintained during interaction

Definition: Adult does not adjust posture, or position the child during interaction so as to equalize size differences.

Examples: (a) standing adult speaking to child seated on the floor.

8. Eye contact maintained during primary interaction

Definition: During the period that an adult is interacting with a given child, that child is the focus of the adult's attention.

9. Limits child (physical)

Definition: A child is prevented from doing something or forced to do something by an adult's physical intervention.

Examples: (a) An adult restrains the arms of a child who is throwing blocks.

(b) An adult pulls a child into a line.

10. Praises child

Definition: The adult makes it known to the child that he is aware that the child's abilities are increasing or simply expresses positive feelings about the child.

Examples: (a) Child playing with ball. Adult: "You're getting good at bouncing that ball."

(b) Infant playing with feet - Adult: "Sandy those are fine feet."

(c) Child scribbles with a crayon and adult applauds.

10a. Reproves child

Definition: Adult expresses displeasure or disapproval of what the child has done or the way in which he is acting.

Examples: Uses of phrases such as "You're being sloppy." "That's not nice."

11. Courteous treatment of child

Definition: The adult treats the child in a way which indicates respect for the child's feelings and individuality.

Examples: Addressing the child by name or making use of "please", "thank you", "excuse me", etc.

11a. Discourteous treatment of child.

Examples: (a) Teasing, mocking or making fun of a child.

(b) Failure to address child by name or make use of "please", thank you", etc.

12. Encourages child to initiate/continue an activity.

Definition: Any act on the adult's part which would encourage a child to continue an activity alone or start a new activity.

Examples: (a) Adult: "Here Sam, now you finish the puzzle."

(b) Adult: "Bill here's a new toy, let's see if you can make it work."

(c) An infant is playing with a block and the adult places a bowl within the child's visual field.

12a. Discourages child from initiating/continuing an activity

Definition: Adult intervenes to prevent child from starting or continuing an activity.

Examples: (a) adult takes puzzle from child

(b) child reaches for an object and the adult moves it out of his reach.

13. Directs behavior

Definition: An adult gives a child specific instructions about what he should do and/or how to do it.

Examples: (a) An adult tells a group to form a line.

(b) A teacher tells a child to put on a smock.

14. Choice given child

Definition: Adult offers the child alternatives and accepts the child's choice.

Examples: (a) Adult offers the same child a variety of toys.

(b) Adult permits a child to choose alternate places to sit, play, etc.

15. Shows interest in child's activity

Definition: The adult indicates to the child that he is aware of, understands or is curious about the child's activity.

Examples: (a) Adult, to child at sand table - "It looks like you're making a tunnel there."

(b) "Will cars roll down that hill?"

16. Child makes overture

Definition: Any act by the child, either verbal or nonverbal, that would indicate that he or she wants adult attention.

Examples: (a) A child tugs at an adult's clothing.

(b) A child sits down and cries and while crying frequently looks toward an adult.

17. Acknowledges child's overture

Definition: The adult indicates to the child that an overture has been received. This does not necessarily mean that the adult immediately does what the child wishes, but just that the child is made aware that the adult knows that he wants attention.

Examples: (a) Child tugs at an adult's clothing and the adult pats the child on the head.

(b) Adult in the same situation says, "Wait just a moment I'll be with you when I finish..."

18. Gives interpretations of overture

Definition: The adult makes an effort to discern a child's motivation for a given overture and feeds that information back to the child. The adult communicates his/her understanding by addressing the felt need.

Examples: (a) A child looking at an adult throws down a toy and whines; the adult begins to ask questions or offer solutions such as, "Would you like to do something else?" "Want a cookie?", - "You're tired and angry." - Adult picks up the child and prepares for nap.

19. Child makes a suggestion

Definition: A child offers an idea or suggests an activity.

Examples: (a) A child says, "Let's jump rope."

(b) A child offers an idea as to how to carry playground equipment out of doors.

20. Suggestion acknowledged

Definition: Adult communicates to the child that his/her suggestion has been heard. It is not necessary for the adult to act on the child's idea.

Examples: (a) Adult is attempting to open animal cage and a child offers a toy wooden hammer. The adult says "You think that we can use the hammer to open the cage."

21. Child makes urgent appeal

Definition: A child suddenly exhibits extreme behavior such as violent crying or total withdrawal.

Examples: (a) A child falls and apparently hurts himself and starts to cry.

(b) An infant suddenly begins to shriek.

22. Urgent appeal elicits aid.

Definition: A child shows real distress and an adult immediately gives aid.

Example: A child trips, falls hard and starts screaming, and an adult moves next to the child and starts to determine the extent of injury, if any, and give comfort.

APPENDIX B

PREDOMINANT ACTIVITIES: OPERATIONAL DEFINITIONS

PREDOMINANT ADULT ACTIVITY
Definitions

I. Bathing: The adult is involved either giving a child a full bath or in washing hands, face, etc. This category is appropriate only if the bathing is not directly connected with a diaper change.

II. Dressing: The adult is directly involved in removing or putting clothes on the child. Check "clothing" if it appears that, without adult involvement, clothes would not get put on or taken off.

III. Diapering: The adult is involved in checking or changing diapers, washing, drying and powdering child, and removing and replacing clothing directly relating to the diaper change. The adult is always within touching distance. (An adult collecting supplies is not noted as diapering.)

IV. Didactic Behavior: The adult is primarily involved in attempting to cause the child to acquire specific knowledge or skills either verbal or physical. To be included in this category, the adult must be acting in a overtly didactic fashion. (e.g., "Here is a ball; Say ball." "Put this ring on that stick." "Show me the picture of a cow."

V. Feeding: The adult is directly involved in feeding a child. Check "feeding" if the adult is giving all or almost all of his attention to this activity, and if most of the food that gets into the child does so as a result of adult involvement. Burping is considered a part of the feeding process.

VI. Noninvolvement: The adult is unrelated to the children either because of intense involvement in a housekeeping or administrative task or because of spatial separation.

VII. Passive Involvement: The adult is performing functions within the room which are not directly child related, but is supervising children, or the adult is specifically supervising but is very much in the background. (To check "passive involvement" it must be judged that the adult is thoroughly aware of what the children are doing. If this is not the case, "noninvolvement" is the appropriate category.

VIII. Play: Active involvement which does not involve any other categories. The adult is fully involved with the child in an organized or spontaneous game or an active relationship.

IX. Positive regard/Discerning and Meeting a Need: The adult's primary activity is comforting the child physically or emotionally, or the adult is experimenting with alternate methods of giving the child pleasure and/or reducing discomfort.

X. Providing for Sleep: Adult is involved in putting the child to sleep. This includes placing in cot or crib, rocking, covering, patting, etc.

APPENDIX C

SAMPLE OBSERVATION RECORD

Day Care Services Evaluation Unit
Infant/Toddler Interaction
and Activity Profile

Center _____
Room _____
Center Code _____
Date _____
Time ____ : ____ to ____ : ____

INTERACTION ELEMENTS

	TIME 1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. spontaneously speaks to child										
2. natural speech used (+, -)										
3. child vocalizes										
4. response to child's vocalization										
5. affectionate physical contact (+, -)										
6. carries child										
7. posture adjusted to child's size (+, -)										
8. eye contact maintained										
9. limits child (physical)										
10. praises child (+, -)										
11. courteous treatment (+, -)										
12. encourages child to initiate (+, -)										
13. directs behavior										
14. choice given child										
15. shows interest in child's activity										
16. child makes overture										
17. acknowledges child's overture										
18. gives interpretations of overture										
19. child makes a suggestion										
20. suggestion acknowledged										
21. child makes urgent appeal										
22. urgent appeal elicits aid										

PREDOMINANT ACTIVITY

bathing										
dressing										
diapering										
didactic behavior										
feeding										
noninvolvement										
passive involvement										
play										
positive regard										
sleep										

CHILDREN'S ACTIVITY

1.	2.	3.	4.	5.
6.	7.	8.	9.	10.